

XXXV. DESCRIPTIONS OF SOME NEW
SPECIES OF FRESHWATER FISHES
FROM NORTH INDIA.

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(Plates xxxviii—xli).

Sub-Order MALACOPTERYGII.

Fam. CLUPEIDAE.

Clupea suhia, sp. nov.

(Pl. xxxviii, fig. 1.)

Body strongly compressed, its depth contained 3 times and length of head $3\frac{1}{5}$ times in the length. Height of head $1\frac{1}{5}$ times in the length of head. Diameter of eye $3\frac{1}{3}$ times in length of head, $\frac{3}{8}$ in the snout and less than one in the inter-orbital distance. Eyes with broad adipose lids. Dorsal 13; there are 26 scales in front of the dorsal fin which is almost directly above the ventral; anterior root of dorsal equidistant from end of snout and base of caudal. Pectoral 13; has two appendants and is shorter than the distance between pectoral and ventral by one scale. Anal 22; the caudal is deeply divided, length of its middle rays is less than $\frac{3}{4}$ of the diameter of eye. Scales 80 in longitudinal series and 26 in transverse series. The serrated ventral outline has 28 scutes of which 18 are in front and 9 behind the ventral fin. The height of the caudal peduncle is contained $1\frac{1}{2}$ times in its length.

Colour.—The species is strikingly blotched, a feature which at once distinguishes it from other freshwater *Clupea*; the back is intensely black, the sides are silvery and on the upper part, running from the upper corner of the gill cleft to the root of the caudal, there is a longitudinal series of large black blotches. In *Clupea ilisha*, only in immature specimens, somewhat similar markings, but quite indistinct in appearance, are noticed; but in *Clupea chapra*, which the new species resembles more than any other, only one black spot is found above the opercle. The blotches give the new species a superficial resemblance to *Clupea variagata*, which is very different from this fish. The edges of the fins are grey.

One specimen from the river Gandak in Saran, Bihar, collected by Mr. Mackenzie of Siripur. Length 155 mm. Local name Suhia.

Sub-Order **OSTARIOPHYSI.**Fam. **CYPRINIDAE.**Sub-fam. **CYPRININAE.****Labeo almorae**, sp. nov.

(Pl. xxxviii, figs. 2, 2a, 2b.)

Body compressed, its depth $3\frac{1}{2}$ times and length of head $4\frac{2}{3}$ times in the length. Snout broadly rounded, on the top studded with numerous pores and tubercles and with a deep depression in the middle. Length of snout greater than the post-orbital length, the latter contained $1\frac{1}{4}$ times in the length of the former. Eye $5\frac{1}{7}$ and length of snout $2\frac{1}{4}$ in the length of head. The inter-orbital width is nearly half the length of the head. Eyes perfectly lateral. Dorsal II 10; equally distant from anterior-orbital border and the base of caudal fin; upper edge deeply concave; the longest ray nearly as long as head. Anal II 5; not reaching root of caudal. Pectoral $\frac{3}{4}$ of the length of head, not reaching the ventral. Caudal deeply immarginate. Scales—lateral line 45, lateral transverse $\frac{10}{4}$, 6 between lateral line and ventral fin, and 24 round caudal peduncle.

Colour.—Dark brown except in abdominal region which is dull white and silvery.

One specimen measuring about 180 mm. from Almora, Western Himalayas.

Labeo kunki, sp. nov.

(Pl. xxxviii, fig. 3.)

Depth of body $3\frac{3}{4}$ times, length of head $4\frac{1}{4}$ times in the length. Snout slightly convex, $1\frac{2}{3}$ times the diameter of eye and longer than the post-orbital length. There is a deep groove on each side of the snout. The diameter of eye $3\frac{1}{2}$ times in the length of head and twice in inter-orbital distance. There are two maxillary barbels concealed under the fold of skin at the corner of the mouth and are nearly as long as diameter of eye. Both upper and lower lips are lobulated. Dorsal II 10; the longest ray being slightly longer than the length of head; free edge concave. Pectoral as long as head. Scales 41 in the lateral line, in lateral transverse $\frac{7}{5}$ and 6 between the lateral line and the ventral fin; 9 round caudal peduncle.

Colour in spirit greyish brown with lower half lighter, back deep brown, a black blotch on each side of caudal peduncle, beginning from the 38th scale in the lateral line and roundly spreading over about 7 scales.

One specimen, length 100 mm., from the river Gandak, Saran, Bihar, collected by Mr. Mackenzie of Siripur. Local name Kunki.

Labeo rilli, sp. nov.

(Pl. xxxviii, fig. 4.)

Depth of body 4 times, length of head $4\frac{1}{2}$ times in the length. Snout shorter than the post-orbital length, the latter $1\frac{1}{3}$ to $1\frac{1}{2}$ times the length of the former. There is a narrow groove on either side of snout and a slight depression above. Diameter of eye slightly shorter than length of snout and contained $3\frac{1}{2}$ times in the length of head. The inter-orbital length is $1\frac{1}{4}$ to $1\frac{1}{2}$ in the diameter of eye. Two minute maxillary barbels. Lips fleshy, lower lip finely lobulated. Chin slightly corrugated with concentric curves. Dorsal II 10; its origin being equidistant between the post-orbital line and the anterior root of the base of anal; length of the longest ray slightly longer than length of head; free edge concave. Anal II 5. Length of pectoral somewhat less than length of head. Scales 44-46 in lateral line, $\frac{9}{3}$ in the lateral transverse and 6 between lateral line and ventral fin; there are no scales on the chest. Caudal deeply divided, both lobes being equal.

Colour in spirit.—A dark brown dorsal band on the middle of the back from nape of the neck to the caudal peduncle; the upper two-thirds of the sides is brown, lower third with abdomen silvery white. There is a large black blotch on each side of the caudal peduncle, commencing on the forty-first scale on the lateral line and spreading roundly over about sixteen scales.

Four specimens from the river Gandak, Saran, collected by Mr. M. Mackenzie. Total length from 85 to 100 mm. Local name Rilli.

Labeo tezpurensis, sp. nov.

(Pl. xxxix, figs. 1, 1a, 1b.)

Depth of body 4 times, length of head $3\frac{1}{5}$ to $3\frac{5}{8}$ times in the length. Snout broadly rounded with a deep groove on each side. Four barbels; two rostrals are minute and are placed at the posterior ends of the grooves of the snout; maxillary nearly double the length of rostral and half the diameter of eye. Eye nearer end of snout than posterior border of head, perfectly lateral, $3\frac{2}{5}$ to $3\frac{3}{5}$ times in length of head. Dorsal II 10—11; equally distant from nostril and from root of caudal; upper edge distinctly concave. Anal II 5, not reaching root of caudal. Pectoral $1\frac{1}{5}$ in the length of head, not reaching ventral. Scales—41-42 in the lateral line and $\frac{8}{5}$ in the lateral transverse, 6 between lateral line and ventral fin.

Colour in spirit dark brown above, silvery or dull white beneath; fins yellowish white, a faint grey blotch in middle of caudal peduncle.

Three specimens from the Belsiri River, Tezpur, Assam, measuring 75 to 85 mm.

Nuria danrica (H. B.) var. **grahami**, var. nov.

(Pl. xxxix, fig. 3.)

Depth of body 4 times, length of head $4\frac{2}{3}$ times in the length. Snout short, being $\frac{5}{6}$ of the diameter of the eye which is contained $3\frac{1}{3}$ times in the length of head, and $1\frac{1}{3}$ times in the inter-orbital length. Barbels four, both the pairs very short; the upper two, which are flattened and blunt, are as long as the diameter of eye or a little longer. The lower ones, which are generally found to be very long (reaching the anal and ventral) in all other known species and varieties, are exceptionally short, being only twice as long as the diameter of the eye. This is a very distinctive character of the new variety. Mouth narrow. Dorsal II 6; situated above the space between the ventral and anal fins; there are 15 scales in front. Pectoral 10; rather broad and blunt, reaching the base of the ventral. Ventral I 7; the outermost ray, which is articulated and is very much prolonged beyond the membrane, reaches the base of the anal and is twice as long as the membranous portion. Anal III 5. Scales—lateral line incomplete, 30.

Colour in spirit.—Upper half brownish grey, a broad black longitudinal stripe from below the eye to the base of the caudal just beneath the middle line.

One specimen from Kalinadi, Meerut (U. P.), measuring 50 mm. in length, collected by Captain J. D. Graham, I.M.S.

Amblypharyngodon saranensis, sp. nov.

(Pl. xxxix, fig. 2.)

Depth of body 3 times, length of head 4 to $4\frac{1}{5}$ times in the length. Diameter of eye $3\frac{1}{2}$ times in the length of the head, equal to the length of snout and also to the inter-orbital length. The opening of the mouth is somewhat superior, the cleft being directed outward and upward. The lower jaw slightly longer with a knob at the symphysis, which fits in the groove of the upper jaw. Dorsal II 7; third ray the longest. Pectoral 14—15; two thirds the length of head. Ventral 8; reaching cloacal opening and overlapping the same. Scales in lateral line 81 to 92, incomplete, with 16 to 18 perforated scales, in lateral transverse series $1\frac{1}{6}$ and between the lateral line and ventral fin 12.

Colour.—Golden yellow with a broad dark band from above the gill cleft to the caudal peduncle.

Two specimens from the Jharai river, Saran, measuring about 78 mm., collected by Mr. M. Mackenzie.

Barilius bonarensis, sp. nov.

(Pl. xxxix, figs. 4, 4a, 4b.)

Depth of body $4\frac{1}{2}$ to $4\frac{2}{3}$ times, length of head $4\frac{2}{3}$ times in the length. Snout rather pointed, slightly projecting beyond mouth,

not longer than eye, which is contained $3\frac{3}{4}$ to $3\frac{4}{5}$ times in length of head. Inter-orbital width equal to diameter of eye or a little greater. Mouth extending to below anterior one-third of eye; a pair of rostral barbels, rather long—nearly half the length of head. Dorsal II 7; above space between ventral and anals, with last two rays of dorsal over the first two of anal; originating midway between posterior border of eye and root of caudal; the longest ray $\frac{3}{4}$ or $\frac{4}{5}$ of the length of the head. Pectoral acutely pointed, a little shorter than head, not reaching ventral; the latter much shorter not reaching vent. Caudal widely forked. Scales—lateral line 47, lateral transverse $\frac{8\frac{1}{2}}{4\frac{3}{4}}$ and between lateral line and ventral $2\frac{1}{2}$.

Colour.—Upper one-third dark brown, below silvery; pectoral, ventral and anal fins reddish yellow, dorsal and caudal sprinkled with grey.

Three specimens, measuring 100, 110 and 115 mm., from Bonar, Gharwal, (U.P.), Western Himalayas.

Danio naganensis, sp. nov.

(Pl. xl, figs. 1, 1a, 1b.)

Depth of body 4 times, length of head 4 to $4\frac{1}{3}$ times in the length. Diameter of eye 3 in the length of head, $\frac{2}{3}$ to 1 in the length of snout, 1 to $1\frac{1}{3}$ in the inter-orbital length. Barbels four, both pairs close together near the angles of the jaws; maxillary pair the smaller, being half the length of the pair in front, the latter half the diameter of the eye. Dorsal 10; 20 scales in front. Anal II 12; pectoral 13; ventral 8. Scales—40-42 in the lateral line which runs close to the ventral border after descending from the gill cleft; in the transverse series $8\frac{1}{2}$ above the lateral line and $3\frac{1}{2}$ below, $2\frac{1}{2}$ between the lateral line and the ventral fin.

Colour in spirit.—A black mark on the back of head and on the back, upper half of the side greenish brown, lower half of the side and fins dull white. There is a black spot behind the upper corner of the gill cleft, a steel grey longitudinal band in the middle of the side which runs quite close to the root of the caudal growing broader as it passes backwards, and a thin dull silvery band just above the steel grey band with traces of a faint one below: these two silver lines are almost in juxtaposition with the steel grey band.

Six specimens, measuring 42—62 mm., from Lungting River, Naga Hills, Manipur.

Sub-fam. *COBITIDINAE*.

Botia lohachata, sp. nov.

(Pl. xl, figs. 2, 2a, 2b.)

Depth of body 4 times, length of head $3\frac{3}{4}$ times in the length. Snout $2\frac{1}{5}$ times in the length of head and twice as long as eye;

diameter of latter contained 4 times in the length of head and $1\frac{1}{2}$ times in the inter-orbital width. Lip in fleshy band, interrupted in the lower median line. Barbels eight; of the two rostral pairs, the upper pair is slightly the longer, $1\frac{1}{2}$ times the diameter of the eye; maxillary pair the longest and mandibular pair the shortest. One pair of bifid and curved spines just in front of the eye (not below). Dorsal I 9; its anterior origin being equidistant from end of snout and root of caudal, free edge of the fin convex. Anal I 5; its tip touching the caudal. Pectoral 14, ventral 8 and caudal 20, the latter deeply bilobed. Scales minute and deciduous, the lateral line is straight, it runs through the middle line and is complete.

Colour in spirit.—A triangular black marking over the snout and a round black blotch in the inter-orbital space behind which on the back there are four black loops, on each side there are four broad black transverse bands descending from the dorsal loops already mentioned. In the centre of each area bounded by these transverse bands there is a round black blotch. The pectoral, ventral, and anal fins are white. The dorsal has one black spot on the upper third and the caudal has two dark bands.

One specimen measuring 40 mm., from the Gandak river, in Saran, Bihar, collected by Mr. M. Mackenzie. Local name Lohachat.

Lepidocephalichthys annandalei, sp. nov.

(Pl. xl, figs. 3, 3a, 3b.)

Depth of body $5\frac{1}{2}$ to 6 times, length of head 4 to $4\frac{1}{2}$ times in the length. Snout 3 to $3\frac{1}{2}$ times in the length of head and $1\frac{1}{3}$ — $1\frac{1}{2}$ times as long as the diameter of eye, the latter contained $4\frac{1}{2}$ to 5 times in the length of head and equal to the inter-orbital width. Mouth inferior. Barbels eight, all small. Dorsal I 7; the anterior origin equidistant from the anterior margin of the eye and the root of the caudal. Anal II 5. Pectoral 7—8, with a slight padding or cushion-like thickness over two of the outer rays. Caudal 16—18; notched in the middle, in some cases the margin of the fin is lunate by considerable shortening of the middle rays. Body variegated with collections of brown and grey spots arranged in patches; the dorsal is faintly banded and the caudal is obliquely banded with three faint grey bars on each side of the middle line. There are two intensely black spots encircled in white rings in the caudal fin, one of these is placed slightly above the middle line near the middle notch at the outer margin of the caudal fin, and the other at the base of the caudal fin slightly above the middle line. The intensely black spot in the middle of the outer margin of the caudal fin and its notched or concavely lunate outside border are very distinctive and constant characters.

Seven specimens measuring from 33 to 42 mm., three from the river Mahananda at Siliguri collected by Dr. N. Annandale,

and four specimens from the river Tista near Jalpaiguri collected by Dr. Annandale and Mr. S. W. Kemp.

***Nemachilus manipurensis*, sp. nov.**

(Pl. xI, figs. 4, 4a, 4b; and Pl. xli, figs. 1, 1a, 1b.)

Depth of body $5\frac{1}{2}$ times, length of head $4\frac{1}{2}$ times in the length. Snout shorter than the post-orbital part of head, nearly $2\frac{1}{2}$ times as long as eye; diameter of latter contained 6 times in the length of head and $2\frac{1}{2}$ times in the inter-orbital width. Breadth of head $1\frac{1}{3}$ times its length, and depth of head $1\frac{1}{3}$ times its breadth. Lip—a fleshy band interrupted in lower median line. Barbels six, outer rostral $3\frac{1}{2}$ times and maxillary 3 times the diameter of eye. Dorsal I 7; its anterior origin being nearly equidistant from base of nostril and root of caudal, free edge of fin convex. Anal I 5. Pectoral extending $\frac{3}{4}$ distance from its base to the base of ventral. Ventral 8, extending nearly $\frac{3}{4}$ distance from its base to the root of anal. Caudal slightly notched in the middle making the outer margin look bilobed. Caudal peduncle rather broad, nearly $1\frac{1}{2}$ times as long as deep and contained $1\frac{1}{2}$ times in the length of head. Scales minute all over the body, lateral line incomplete; the openings of a series of muciferous glands beginning from the end of the snout, continue below the eye and become continuous with those of the lateral line.

Colour.—Uniform steel grey on the upper two-thirds, below yellowish white; ventral and anal fins and lower part of pectoral yellow. Dorsal and caudal fins banded with 4 or 5 transverse wavy bands made up of minute black spots. Upper side of pectoral greyish yellow.

In the males there is a secondary sexual character in the form of a round flat cartilagenous flap in front of the eye, somewhat similar to the structure found in *Nemachilus mackenziei*, Chaudhuri (Rec. Ind. Mus., V, 183), pl. xli, fig. 2.

Three specimens, two males and one female, from Manipur, Assam, measuring from 50 to 82 mm.

Fam. SILURIDAE

***Olyra kempi*, sp. nov.**

(Pl. xli, figs. 4, 4a, 4b.)

Depth of body 9 to 10 times, length of head 5 to 6 times in the length. Head very much depressed and snout spatulate; eyes subcutaneous, diameter of eye $4\frac{1}{2}$ to 5 times in the length of head, $1\frac{1}{2}$ to 2 in the length of snout and 2 in the inter-orbital space. Barbels eight, the maxillary reaching almost to the end of pectoral, outer mandibular half of maxillary; nasal and inner mandibular about half the length of head. Upper jaw slightly longer. Dorsal 7; first ray short, rest slender but high. Adipose dorsal long and

low, terminates in a raised knob-like end just above the termination of the anal fin. Pectoral I 4-6; serrated spine with about 15 serrations on each side, slightly shorter than the rays, the anterior fourth of the spine free from any serration and is pointed. Ventral 6; slightly in advance of the rayed dorsal. Anal 17-18, the rays subequal. Caudal 15-16, deeply lobed, some of the superior rays of the upper lobe considerably longer than those of the lower lobe. Numerous gland openings in the head and chest, also conspicuous glandular opening along the lateral line.

Colour in spirit.—There are two longitudinal pale brown bands on each side of the lateral line, the position of which is noticeable by a dark brown band. The rest of the body is coloured brown; abdomen, anal, pectoral, ventral and dorsal fins dull white, adipose deep brown.

Five specimens from Mangaldai (Assam-Bhutan Frontier), collected by Mr. S. W. Kemp. The largest measures 54 mm. without caudal.

Owing to the discovery of this species the generic description has to be modified a little as the caudal fin in this species, unlike others of the genus, is deeply lobed. It also extends the range of the genus from the Khasi Hills and certain parts of Burma further northwards to the base of the Eastern Himalayas.

***Pseudeutropius atherinoides* (Bloch) var. *walkeri*, var. nov.**

(Pl. xli, fig. 3.)

Depth of body $4\frac{1}{2}$ in the length, length of head $4\frac{5}{6}$. Snout equal to the diameter of eye and shorter than the postorbital length, eyes subcutaneous, the diameter of which is $3\frac{1}{4}$ in the length of head and about $1\frac{1}{4}$ in the inter-orbital length. Barbels eight, nasals slightly longer than length of head, maxillary pair reach the root of ventral, outer mandibular reach half of pectoral and inner mandibular root of pectoral. Dorsal I 6; dorsal spine strong, finely serrated anteriorly and coarsely serrated posteriorly, longest ray as long as head, length of spine two-thirds of the same. Pectoral II 6; the spine is a jointed double structure, outer terminates in a point, inner in a bent (denticulate), outer surface of jointed spine is serrated, inner side of same denticulated with 12 denticulations and equal to dorsal spine in length. Ventral 7 and anal 37. Caudal lobed. A narrow spiral corrugation on chest.

Colour in spirit.—A black blotch on the nape of neck and a black ring enclosing basal process of dorsal spine, a narrow white stripe joins these two black markings; three longitudinal brown stripes on each side; fins dull white; a large black blotch behind gill cleft concealing a thin membrane which bulges out opposite osseous air bladder, thus suggesting the presence of a sounding apparatus.

Two specimens from Siripur, Saran, Bihar. Total length with caudal 70 mm